

2. A method for remotely controlling through an electronic connection one or more systems that include a spectral measurement device, comprising the steps of:

providing at least a first system at a first location;

at a second location remote from the first location, generating at least one or more operational commands for the first system;

transmitting, via the electronic connection, the one or more operational commands to at least the first system;

receiving the one or more operational commands with the first system;

operating the first system in accordance with the one or more operational commands,

wherein spectral measurements are made in one or a plurality of locations remote from the second location in accordance with the one or more operational commands transmitted from the second location.

3. The method of claim 2, wherein the electronic connection comprises a dedicated network or other connection.

4. The method of claim 2, wherein the electronic connection comprises a dial-in connection.

5. The method of claim 2, wherein the electronic connection comprises an Internet connection.

6. The method of claim 2, wherein the electronic connection comprises a wide area or other network.

7. The method of claim 2, wherein the second location is operated or controlled by an entity that manufactures, maintains, services or operates a plurality of systems that make spectral measurements.

8. The method of claim 2, wherein the one or more commands are selectively transmitted to the first system via an Internet web page.

9. The method of claim 2, wherein the one or more commands initiate a diagnostic or test mode of operation in the at least first system.

10. The method of claim 9, wherein a system at the second location receives and stores diagnostic data for the at least first system.

~~11.~~ The method of claim 9, wherein the diagnostic or test mode of operation is initiated periodically.

~~12.~~ The method of claim 11, wherein the diagnostic or test mode of operation is initiated periodically based on time, numbers of hours of operation of the first system or a lamp in the first system, number of spectral measurements made with the first system, or upon initialization or boot-up of the first system.

~~13.~~ The method of claim 12, wherein a system at the second location stores data indicative of a history of operation of at least the first system.

~~14.~~ The method of claim 13, wherein the system at the second location statistically processes the data indicative of the history of operation of at least the first system.

~~15.~~ The method of claim 14, wherein the system at the second location predicts the needs for servicing of at least the first system.

~~16.~~ The method of claim 15, wherein the servicing includes a lamp replacement, a filter replacement or other component replacement or servicing.

~~17.~~ The method of claim 9, wherein, in response to the diagnostic or test mode of operation in the at least first system, a message is selectively displayed on at least the first system.

~~18.~~ The method of claim 9, wherein, in response to the diagnostic or test mode of operation in the at least first system, an Internet or other electronic message is selectively generated.

~~19.~~ The method of claim 2, wherein a system at the second location receives and stores operational data for the at least first system.

~~20.~~ The method of claim 19, wherein the system at the second location receives and stores operational data periodically.

~~21.~~ The method of claim 20, wherein the system at the second location receives and stores operational data periodically based on time, numbers of hours of operation of the first system or a lamp in the first system, number of spectral measurements made with the first system, or upon initialization or boot-up of the first system.

~~22.~~ The method of claim 20, wherein a system at the second location stores operational data indicative of a history of operation of at least the first system.

~~23.~~ The method of claim 22, wherein the system at the second location statistically processes the operational data indicative of the history of operation of at least the first system.

~~24.~~ The method of claim 23, wherein the system at the second location predicts the needs for servicing of at least the first system.

~~25.~~ The method of claim 24, wherein the servicing includes a lamp replacement, a filter replacement or other component replacement or servicing.

~~26.~~ The method of claim 19, wherein, in response to the system at the second location receiving and storing operational data for the at least first system, a message is selectively displayed on at least the first system.

~~27.~~ The method of claim 19, wherein, in response to the system at the second location receiving and storing operational data for the at least first system, an Internet or other electronic message is selectively generated.

~~28.~~ The method of claim 2, wherein the one or more operational commands transmitted to at least the first system include a software upgrade for the first system, wherein after receipt of the software upgrade the first system operates based on the software upgrade.

~~29.~~ The method of claim 28, wherein the software upgrade comprises a bug fix or a new release of an operating system program, an application program or other software.

~~30.~~ The method of claim 28, wherein the software upgrade includes updated color reference data, wherein the first system takes one or more spectral measurements of an object or material and outputs one or more closest matches to colors or shades based on the updated color reference data.

~~31.~~ The method of claim 30, wherein the updated color reference data comprise dental shade guide data, paint reference data or Pantone color reference data.

~~32.~~ The method of claim 30, wherein the updated color reference data comprise Vita dental shade guide data.

~~33.~~ The method of claim 28, wherein the software upgrade includes data indicative of materials to produce a second object based on a spectral measurement made by the first system of a first object.

~~34.~~ The method of claim 28, wherein the software upgrade includes virtual shade guide data.

35. The method of claim 28, wherein the software upgrade includes data indicative of constituent materials of an object to produced.

36. The method of claim 35, wherein the software upgrade includes a recipe of materials.

37. The method of claim 28, wherein the software upgrade includes normalization or calibration data.

38. The method of claim 28, wherein the software upgrade includes parameters for controlling a signal processing or filtering algorithm.

39. The method of claim 38, wherein spectral measurements are made with the first system, wherein the spectral measurements are made based on processing carried out in accordance with the parameters.

40. The method of claim 2, wherein a plurality of systems remote from the second location receive one or more operational commands from the second location, wherein the plurality of systems operate to make spectral measurements in a synchronized or corresponding manner based on the one or more operational commands from the second location.

41. The method of claim 2, wherein the first system operates to carry out a calibration or normalization process based on the relative movement of a probe with respect to a calibration standard.

42. The method of claim 41, wherein sensors detect the physical position of the probe with respect to the calibration standard during the calibration or normalization process.

43. The method of claim 42, wherein, after the calibration or normalization process, the first system makes spectral measurements based on calibration data and physical position data from the sensors generated during the calibration or normalization process.

44. The method of claim 41, wherein a system at the second location remotely initiates, controls, monitors and/or receives data from, a calibration or normalization process carried out by the first system.

45. The method of claim 2, wherein the second location is coupled to or comprises a location for providing one or more articles of color characteristics that correspond to spectral measurements made by at least the first system.

46. The method of claim 45, wherein a plurality of systems remote from the second location make spectral measurements of materials or objects, wherein a plurality of articles are provided, wherein the plurality of articles have color characteristics that correspond to spectral measurements made by the plurality of systems.

47. A method for operating via an electronic connection one or more systems that include a spectral measurement device, comprising the steps of:

providing at least a first system at a first location;

making spectral measurements with the first system at the first location.

transmitting, via the electronic connection, spectral measurement data generated by the first system to a second location remote from the first location;

receiving the spectral measurement data with a system at the second location;

wherein, based on the spectral measurement data received at the second location,

providing one or more articles of color characteristics that correspond to spectral measurements made by at least the first system.

48. The method of claim 47, wherein a plurality of systems remote from the second location make spectral measurements of materials or objects, wherein a plurality of articles are provided, wherein the plurality of articles have color characteristics that correspond to spectral measurements made by the plurality of systems.